

# ALEXANDRE CARMINOT

Engineering Student - Software Engineering - Medical Engineering

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## EDUCATION

Master - Medical Engineering	09/2019 - Present
EPF Engineering School Paris	Expected Graduation in 2025
<ul style="list-style-type: none"><li>Problem-solving, analytical and critical thinking, medical engineering principles, programming, device design.</li></ul>	
Computer Science - Exchange Program	09/2024 - Present
Tianjin University	
<ul style="list-style-type: none"><li>Algorithmic programming, machine learning , computer vision, applied data science</li></ul>	
Intelligent Medical Engineering - Exchange Program	09/2023 - 01/2024
Tianjin University	
<ul style="list-style-type: none"><li>Precision medicine, neurosciences, brain-computer interfaces (BCI), medical imaging basics, fundamentals of medical engineering.</li></ul>	

## SPECIALIZATION COURSES

Deep Learning and Advanced Tensorflow	Advanced Machine Learning on Google Cloud
DeepLearning.AI	Google
Advanced Medical Neuroscience	Machine Learning Specialization
Duke University	Stanford University & DeepLearning.AI

## PROJECTS

BCI application - In Progress
Developing a BCI simulator to interpret various EEG and MEG signals, including datasets for muscle movement, arithmetic tasks, error recognition, and active thinking. Enables real-time virtual control based on user thought patterns.
<ul style="list-style-type: none"><li>Leveraging datasets (e.g., Berlin BCI Challenge IV, Motor-Movement Image) and signal processing techniques to classify thought-based actions for real-time control.</li><li>Goal : Extract the "thoughts" and actions of the subjects to link it to various controls.</li></ul>
BCI Workshop - Tianjin University
Hand Movement Recognition (MATLAB)
<ul style="list-style-type: none"><li>Developed and deployed a real-time hand gesture recognition system using flexion sensors and AI, accurately classifying 6 unique static and dynamic patterns with pattern recognition algorithms. Demonstrated successful identification with 98% accuracy.</li></ul>
Disease Prediction Algorithm
Self-developed an AI to determine a disease based on a provided symptoms list. Currently predicts 41 common diseases using 131 distinct symptoms.
<ul style="list-style-type: none"><li>Developed a disease prediction model that achieved 96% accuracy by combining an ensemble of XGBoost, SVM, and ReLu models. Benchmarked model performance against a deep neural network to ensure robustness and model reliability</li></ul>

## EXPERIENCE

Outlier Agent	01/2024 - Present
Remote   Current	
<ul style="list-style-type: none"><li>Reviews and flags critical errors in logic and generated code in large language model outputs, enhancing model precision and alignment with user expectations.</li></ul>	
Private Tutor and E-Sport Coach	06/2022 - 09/2023
<ul style="list-style-type: none"><li>Led personalized tutoring sessions in Math and Physics, strengthening foundational skills and boosting student confidence in subject mastery.</li><li>Customized tutoring and coaching strategies to suit individual skill levels, resulting in an improvement of the student performance.</li></ul>	
Internship	06/2022 - 9/2022
Zen2050Maintenant	Paris
<ul style="list-style-type: none"><li>Developed and implemented interactive exhibition stands for Zen2050's annual event, creating eco-conscious games, climate-themed art, and educational activities that engaged a large part of visitors in sustainability initiatives.</li></ul>	

## ABOUT ME

As a student of engineering and medicine, my journey is deeply rooted in the intersection of medicine and technology. Focusing on medical engineering, I am driven by a passion for software development and artificial intelligence, particularly in the realms of brain-computer interfaces, machine learning, and neuro-engineering. My work has spanned projects using Python, MATLAB, and C++ to explore data analysis, signal processing, and AI-driven solutions.

## FIND ME ONLINE

	<a href="#">Alex-Irae [link]</a>
	<a href="#">My Portfolio [link]</a>
	<a href="#">Alexandre CARMINOT [link]</a>

## SKILLS

Programming Skills
Machine Learning - Python
Tensorflow - Deep Learning - C++
Java - Docker - MATLAB
HTML, CSS & Javascript
Technical Skill
Neurosciences   Problem Solving
Innovation   Critical thinking

## LANGUAGES

French	Native, Voltaire Certification
English	Expert, TOEIC (980/990)
Spanish	Intermediate, B1
Chinese	Beginner, HSK3

## PASSIONS

- Martial Arts : Taekwondo (Red Belt), Judo (Brown Belt)
- Team sports : Rugby & Soccer
- Music : Piano (Playing for 7 years)
- Science : Astronomy, Cosmology, Archaeology